

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Previously Presented) An integrated circuit comprising:
  - a first port to receive a first signal from a first channel;
  - a first device, coupled to the first port, to modify a channel response of the first signal received from the first channel, the first device including a filtering device having a plurality of stages, each stage including one of a plurality of voltage-to-current converters and one of a plurality of current multipliers, the filtering device to provide a separate output for each of the stages; and
  - a waveform capture device, coupled to the first device, to capture a waveform of a signal modified by the first device.
2. (Previously Presented) The integrated circuit of claim 1, wherein the first device further includes a sampling circuit.
3. (Currently Amended) The integrated circuit of claim 2, wherein the filtering device filters the first signal from the first channel prior to the sampling circuit.

4. (Currently Amended) The integrated circuit of claim 2, wherein the sampling circuit samples the first signal from the first channel prior to the filtering device.

5. (Original) The integrated circuit of claim 1, further comprising:  
a second port to receive a second signal from a second channel;  
a second device, coupled to the second port, to modify a channel response of the second signal received from the second channel; and  
another waveform capture device, coupled to the second device, to capture a waveform of a signal modified by the second device.

6. (Previously Presented) The integrated circuit of claim 5, wherein the second device comprises a filtering device that includes a plurality of voltage-to-current converters and a plurality of current multipliers coupled in a plurality of stages.

7. (Previously Presented) The integrated circuit of claim 1, wherein the filtering device further includes a plurality of sampling circuits to sample the signal received at the first port.

8. (Canceled)

9. (Previously Presented) The integrated circuit of claim 1, wherein the waveform capture device includes a variable offset to skew a reference current.

10. (Currently Amended) The integrated circuit of claim 1, wherein the first signal comprises a differential signal.

11. (Currently Amended) A chip comprising:  
a processing circuit to receive a signal across a channel and perform signal processing on the signal, the processing circuit including a filtering circuit having a plurality of stages to provide a plurality of outputs, each of the stages to provide a separate response as an output of a filtering operation, the processing circuit to output a processed signal based on the separate responses, the filtering circuit including a plurality of voltage-to-current converters and a plurality of current multipliers; and  
a waveform capturing device to capture a waveform of the signal based on the processed signal.

12. (Previously Presented) The chip of claim 11, wherein the processing circuit further includes a sampling circuit.

13. (Previously Presented) The chip of claim 12, wherein the filtering circuit filters the signal from the channel prior to the sampling circuit.

14. (Previously Presented) The chip of claim 12, wherein the sampling circuit samples the signal from the channel prior to the filtering circuit.

15. (Original) The chip of claim 11, wherein the processing circuit modifies a channel response of the received signal.

16. (Canceled)

17. (Currently Amended) The chip of claim ~~[[16]]~~ 11, wherein the filtering circuit further includes a plurality of sampling circuits to sample the received signal.

18. (Canceled)

19. (Previously Presented) The chip of claim 11, wherein the waveform capturing device includes a variable offset to skew a reference current.

20. (Currently Amended) A method comprising:  
receiving a signal from a channel;  
modifying a channel response of the received signal by performing a filtering operation on the received signal, the filtering operation including dividing the received signal into a plurality of stages and providing a plurality of outputs, each stage providing a separate response as an output of the filtering operation, and each stage including a separate voltage-to-current conversion and a separate current multiplication; and  
capturing a waveform of a signal having the modified channel response.

21. (Canceled)

22. (Currently Amended) The method of claim 20, wherein modifying the channel response further includes a sampling operation of the received signal.

23. (Original) The method of claim 22, wherein the filtering operation occurs prior to the sampling operation of the received signal.

24. (Original) The method of claim 22, wherein the sampling operation of the received signal occurs prior to the filtering operation.

25. (Canceled)

26. (Currently Amended) The method of claim 20, wherein each of the stages includes a voltage-to-current converter to perform the voltage-to-current conversion and a separate current multiplier to perform the current multiplication.

27. (Previously Presented) The method of claim 20, wherein the filtering operation further includes combining filtered responses.

28. (Currently Amended) The method of claim 27, wherein capturing the waveform includes sampling the combined filtered ~~response~~ responses.

29. (Previously Presented) The method of claim 20, wherein capturing the waveform includes skewing a reference current.

30. (Original) The method of claim 20, further comprising:  
receiving another signal across another channel;  
modifying a channel response of the received another channel; and  
capturing a waveform of a signal having the modified channel response.

31. (Previously Presented) An electronic system comprising:  
an integrated circuit including a port to receive a signal from a channel, a processing device, coupled to the port, to modify a channel response of the signal received from the channel, and a waveform device, coupled to the processing device, to capture a waveform of a signal modified by the processing device, the processing device including a filtering device having a plurality of voltage-to-current converters and a plurality of current multipliers coupled in a plurality of stages; and  
a network interface to couple the integrated circuit to a network.

32. (Previously Presented) The electronic system of claim 31, wherein the processing device further includes a sampling circuit.

33. (Original) The electronic system of claim 32, wherein the filtering device filters the received signal from the channel prior to the sampling circuit.

34. (Original) The electronic system of claim 32, wherein the sampling circuit samples the received signal from the channel prior to the filtering circuit.

35. (Previously Presented) The chip of claim 11, wherein each stage includes a voltage-to-current converter and a current multiplier.

36. (New) The method of claim 20, wherein each stage including a separate one of a plurality of voltage-to-current converters and a separate one of a plurality of current multipliers.